

AMENDMENTS TO THE CLAIMS

1 1. (Currently amended) A method of debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 executing a web browser at the workstation;
5 invoking the application program and the debugger program ~~from the workstation~~ using a
6 user interface provided by the web browser and via a network interface to cause
7 the server to execute the application program and the debugger program;
8 receiving a first web page from the server for displaying a user frame in the web browser
9 at the workstation;
10 displaying ~~[[a]]~~ the user frame of the first web page in the web browser at the
11 workstation, ~~that~~ wherein the user frame includes information generated by the
12 application program;
13 ~~providing~~ displaying a debug view option in the web browser at the workstation for
14 generating a second web page having a debug frame of the application program;
15 and
16 receiving the second web page from the server for displaying the debug frame in the web
17 browser at the workstation when the debug view option is selected; and
18 displaying the debug frame of the second web page in the web browser at the workstation
19 ~~when the debug view option is selected~~, wherein the debug frame includes
20 information about one or more components of the application program.

1 2. (Original) The method of Claim 1 further comprising:
2 providing a user view option at the workstation for generating the user frame; and
3 displaying the user frame when the user view option is selected.

1 3. (Currently amended) The method of Claim 1 wherein displaying the debug frame
2 of the second web page in the web browser at the workstation includes providing a list of
3 variable names in the application program.

1 4. (Currently amended) The method of Claim 3 wherein displaying the debug frame
2 of the second web page in the web browser at the workstation includes providing at least one of:

3 a list of request information variable names in the application program, or a list of session
4 information variable names in the application program.

1 5. (Original) The method of Claim 3, wherein one or more of the variable names
2 represents a corresponding object, the method further comprising:
3 selecting one of the variable names; and
4 providing information about the object corresponding to the variable name on the debug
5 frame.

1 6. (Original) The method of Claim 5 wherein the information about the object
2 includes at least one of: the fields of the object, the methods associated with the object, or the
3 constructors associated with the object.

1 7. (Original) A computer readable storage media comprising:
2 computer instructions to implement the method of claim 1.

1 8. (Original) A signal in a carrier medium comprising:
2 computer instructions to implement the method of claim 1.

1 9. (Currently amended) A method of debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 executing the application program and the debugger program on the server when the
5 application program is invoked from the workstation;
6 generating information for a first web page, wherein the first web page comprises a user
7 frame ~~at the workstation~~ that includes information generated by the application
8 program;
9 transmitting the first web page to the workstation; and
10 generating information for a second web page, wherein the second web page comprises a
11 debug frame ~~at the workstation~~ when a debug view option is selected from the
12 workstation, wherein the debug frame includes information about components of
13 the application program; and
14 transmitting the second web page to the workstation.

1 10. (Currently amended) The method of Claim 9 wherein generating information for
2 ~~the debug frame~~ second web page includes saving the information for the user frame when the
3 debug view option is selected.

1 11. (Original) The method of Claim 10 further comprising restoring the saved
2 information for the user frame when a user view option is selected at the workstation.

1 12. (Currently amended) The method of Claim 9 wherein generating information for
2 the second web page ~~debug frame~~ includes generating a list of components of the application
3 program.

1 13. (Currently amended) The method of Claim 9 wherein generating information for
2 the second web page ~~debug frame~~ includes generating at least one of: a list of variables in the
3 application program, a list of methods associated with one or more of the variables in the
4 application program, or a list of constructors associated with one or more of the variables in the
5 application program.

1 14. (Currently amended) The method of Claim 9 wherein generating information for
2 the second web page ~~debug frame~~ e includes using reflection technology to generate at least one
3 of: a list of variables in the application program, a list of methods associated with one or more of
4 the variables, and a list of constructors associated with one or more of the variables.

1 15. (Original) A computer readable storage media comprising:
2 computer instructions to implement the method of claim 9.

1 16. (Original) A signal in a carrier medium comprising:
2 computer instructions to implement the method of claim 9.

1 17. (Currently amended) An apparatus for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 means for executing a web browser at the workstation;

5 means for invoking the application program and the debugger program ~~from the~~
6 ~~workstation~~ using a user interface provided by the web browser and to cause the
7 server to execute the application program and the debugger program;
8 means for receiving a first web page from the server for displaying a user frame in the
9 web browser at the workstation;
10 means for presenting ~~[[a]]~~ the user frame of the first web page in the web browser at the
11 workstation, that wherein the user frame that includes information generated by
12 the application program;
13 means for presenting a debug view option in the web browser at the workstation to
14 generate a second web page having a debug frame of the application program; ~~and~~
15 means for receiving the second web page from the server for displaying the debug frame
16 in the web browser at the workstation when the debug view option is selected; and
17 means for presenting the debug frame of the second web page in the web browser at the
18 workstation ~~when the debug view option is selected~~ when the debug view option
19 is selected, wherein the debug frame includes information about one or more
20 components of the application program.

1 18. (Original) The apparatus of Claim 17 further comprising:
2 means for presenting a user view option at the workstation for generating the user frame;
3 and
4 means for presenting the user frame when the user view option is selected.

1 19. (Currently amended) The apparatus of Claim 17 wherein the debug frame of the
2 second web page in the web browser at the workstation includes ~~presenting~~ a list of components
3 of the application program.

1 20. (Original) The apparatus of Claim 17, wherein one or more of the
2 components represents a corresponding object, the apparatus further comprising:
3 means for selecting one of the objects; and
4 means for presenting information about the selected object, wherein the information
5 about the object includes at least one of: the name of the object, the fields of the

6 object, the methods associated with the object, or the constructors associated with
7 the object.

1 21. (Currently amended) An apparatus for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the method comprising:
4 means for executing the application program and the debugger program on the server
5 when the application program is invoked from the workstation;
6 means for generating information for a first web page, wherein the first web page
7 comprises a user frame ~~at the workstation~~ that includes information generated by
8 the application program; and
9 means for generating information for a second web page, wherein the second web page
10 comprises a debug frame ~~at the workstation~~ when a debug view option is selected
11 from the workstation, wherein the debug frame includes information about
12 components of the application program.

1 22. (Currently amended) The apparatus of Claim 21 further comprising ~~wherein the~~
2 ~~means for generating information for the debug frame includes~~ means for saving the information
3 for the user frame when the debug view option is selected.

1 23. (Original) The apparatus of Claim 22 further comprising means for restoring
2 the saved information for the user frame when a user view option is selected at the workstation.

1 24. (Currently amended) The apparatus of Claim 21 further comprising ~~wherein the~~
2 ~~means for generating information for the debug frame includes~~ means for generating a list of
3 objects in the application program.

1 25. (Currently amended) The apparatus of Claim 24 wherein the means for
2 generating ~~information for the debug frame~~ a list of objects in the application program includes
3 at least one of: means for generating a list of methods associated with one or more of the objects
4 in the application program, or means for generating a list of constructors associated with one or
5 more of the objects in the application program.

1 26. (Currently amended) The apparatus of Claim 24 ~~further comprising wherein the~~
2 ~~means for generating information for the debug frame includes~~ means for using reflection
3 technology to generate at least one of: a list of objects in the application program, a list of
4 methods associated with one or more of the objects, and a list of constructors associated with one
5 or more of the objects.

1 27. (Currently amended) The apparatus of Claim 24 further comprising:
2 means for providing the list of objects to the workstation in a web page when the debug
3 view option is selected at the workstation.

1 28. (Currently amended) The apparatus of Claim 25 further comprising:
2 means for providing in a web page at least one of: a list of names of the objects, a list of
3 fields of at least one of the objects, a list of values of at least one of the objects,
4 the list of methods associated with at least one of the objects, or the list of
5 constructors associated with at least one of the objects.

1 29. (Currently amended) A system for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the system comprising:

4 a ~~user interface~~ web browser executable at the workstation operable to:

5 interact with a web page displayed by the web browser to allow a user to invoke
6 the application program and the debugger program from the workstation to
7 cause the server to execute the application program and the debugger
8 program;

9 present a first web page in the web browser, wherein the first web page comprises
10 ~~present~~ a user frame ~~at the workstation~~ that includes information generated
11 by the application program;

12 present a debug view option to generate a second web page having a debug frame
13 of the application program; and

14 present the debug frame of the second web page ~~at the workstation~~ when the
15 debug view option is selected, wherein the debug frame includes
16 information about one or more components of the application program.

1 30. (Currently amended) The system of Claim 29 wherein the ~~user interface web~~
2 browser executable at the workstation is further operable to:
3 present a user view option at the workstation; and
4 present the user frame when the user view option is selected.

1 31. (Original) The system of Claim 29 wherein the debug frame at the
2 workstation includes a list of one of more components of the application program.

1 32. (Currently amended) The system of Claim 29 wherein the application program
2 generates instructions and information for displaying ~~[[a]] the web page pages at the user~~
3 interface.

1 33. (Currently amended) The system of Claim 29 wherein the ~~user interface is a web~~
2 browser is operable to display graphical user controls to allow the workstation to communicate
3 with the server.

1 34. (Original) The system of Claim 31_ further wherein the ~~user interface web~~
2 browser is operable to present a third web page, and the third web page comprises additional
3 information about at least one of the components when the component is selected by the user.

1 35. (Original) The system of Claim 34, wherein the additional information
2 includes at least one of: the name of the component, the fields of the component, the methods
3 associated with the component, or the constructors associated with the component.

1 36. (Currently amended) A system for debugging an application program from a
2 workstation, wherein the application program and a debugger program reside on a server that is
3 remote from the workstation, the system comprising:
4 means for executing the application program and the debugger program on the server
5 when the application program is invoked from the workstation;
6 means for generating information for a first web page, wherein the first web page
7 comprises a user frame ~~at the workstation~~ that includes information generated by
8 the application program; and

9 a debugger program operable to generate information for a second web page, wherein the
10 second web page comprises a debug frame ~~at the workstation~~ when a debug view
11 option is selected from the workstation, wherein the debug frame includes
12 information about components of the application program.

1 37. (Original) The system of Claim 36 wherein the debugger program is operable
2 to save the information for the user frame when the debug view option is selected.

1 38. (Original) The system of Claim 37 wherein the debugger program is operable
2 to restore the saved information for the user frame when a user view option is selected at the
3 workstation.

1 39. (Original) The system of Claim 36 wherein the debugger program is operable
2 to generate a list of objects in the application program.

1 40. (Currently amended) The system of Claim 39 wherein the debugger program is
2 operable to generate in a web page at least one of: a list of methods associated with one or more
3 of the objects in the application program, or a list of constructors associated with one or more of
4 the objects in the application program.

1 41. (Original) The system of Claim 36 wherein the debugger program is operable
2 to use reflection technology to generate at least one of: a list of objects in the application
3 program, a list of methods associated with one or more of the objects, and a list of constructors
4 associated with one or more of the objects.

1 42. (Currently amended) The system of Claim 36 wherein the application program
2 generates instructions and information for displaying ~~[[a]]~~ the web page pages.

1 43. (Original) The system of Claim 36 wherein the server is operable to
2 communicate with a web browser program at the workstation.

1 44. (Original) The system of Claim 36 wherein the application program accesses
2 at least one of: internal code, private code, or public code.